



Wyoming Game and Fish Department

Pinedale Region Angler Newsletter

Volume 16

2022

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Fish Management in the Pinedale Region

Thanks for reading the 2022 Pinedale Region Angler Newsletter! We had another great year and are here to share many of the management, habitat and fish culture highlights from previous years.

As always, please feel free to contact us with any comments or questions about the aquatic resources in the Upper Green River and Lower Bear River drainages of Wyoming. Your input is important to us as we manage these resources for you, the people of Wyoming. You'll find our contact information on the last page of this newsletter. Thanks for a great 2021 and happy fishing in 2022!

Pinedale Region Fisheries Personnel

Daniel Fish Hatchery



Bret Barngrover *Superintendent*
Greg Lehr *Senior Culturist*
LeAndra Smith *Culturist*

Boulder Rearing Station



Chip Moller
Superintendent

Matt Joki
Culturist

Joe Gillis
Senior Culturist



Spawning Crew

Kris Holmes *Spawning Coordinator*
Pete Feck *Spawning Specialist*

Fisheries Management



Pete Cavalli
Fisheries Biologist



Hilda Sexauer
Fisheries Supervisor



Alex LeCheminant
Fisheries Biologist

Aquatic Habitat



Luke Schultz
Aquatic Habitat Biologist

Pinedale Region Welcomes New Fisheries Biologist

The Pinedale Fisheries Management crew welcomes Alex LeCheminant to the team in 2022. Alex comes to Pinedale by way of Idaho, where he worked as an anadromous fisheries biologist, evaluating hatchery-reared steelhead populations throughout the state. Prior to his time in Idaho, Alex worked for WGFD as the AIS Specialist in Cody, WY.

Alex received his master's degree from the University of Wyoming in 2019, where he studied the fate of stocked Colorado River Cutthroat Trout in LaBarge Creek watershed. Before attending UW, he worked two seasons as a fisheries management technician in the Pinedale region, and as a statewide spawning crew technician, again based out of Pinedale. Alex is excited to come back to the area, and looks forward to building relationships with many of the anglers throughout the region. Alex is always interested to talk fish, so stop by the office, or call any time!



Game and Fish Completes Habitat and Boat Access Work in 2021

It's no secret to anglers of the Pinedale Region that the Green and New Fork rivers host tremendous fishing opportunities. Increasingly in recent years, that "no secret" part of the above sentence has been especially obvious as more and more people can be seen on our local waters. And it's really no huge surprise: the waters are productive, the scenery spectacular and the relative ease of getting away from folks is better around tiny Pinedale than in a lot of other places in the ever-busier West.

While many different solutions to perceived crowding issues have been suggested, the Wyoming Game and Fish Department in the Pinedale Regional office has focused on improving fish habitat in these reaches to increase fish populations, as well as providing access opportunities to spread pressure across the productive portions of rivers. The Aquatic Habitat Section made strides in 2021 to address both of these issues with projects on the Green and New Fork rivers. We hope this work will be well received by anglers, and continue to enhance fishing opportunities in the Region.

In spring 2021, work on the New Fork Gas Wells site was completed to enhance habitat on approximately two-thirds of a mile of the New Fork River. The habitat upgrades included about 500' of toe wood, installed at a long outside bend, and construction of two boulder j-hooks. Toe wood helps to stabilize the outside bend of the river, and is great habitat for adult fish. More on that later. J-hooks help "turn" a river around the bend by altering the flow path of water along a stream bank. The "hook" part of the j-hook also is great at creating a deep pool within a run, and the large rock provides excellent holding cover in these feeding habitats. They are also very helpful in creating slow velocity nearshore areas that are great for fish, and for launching and landing boats on the river.

The work also included reconstruction of a boat ramp and parking area at the "Gas Wells" site. The site previously supported a boat ramp in the early 2000s, but lateral instability of the river eroded it several years ago. The access will be an excellent way to get folks on the river to either float or fish, pursue waterfowl or moose, or to just enjoy the largest piece of publicly-owned river corridor (*Continued on next page*)

on the New Fork. In future years, we will add a comfort station at the site to increase convenience to river users. We will also begin preparing for additional habitat work on the remainder of this two mile-long reach, which we anticipate to occur starting in 2023.

Now, back to the benefits of wood in rivers. Typically, toe wood is placed along a deep pool that has natural fish holding capacity. This “fishy” habitat is further enhanced by the cover of installed root wads and woody slash. Work in other areas shows that the use of large wood in pool enhancements can maintain pools that are up to a third deeper. From a fish perspective, pools enhanced with large woody structures can hold twice as many trout, and up to 10X as much biomass as pools that lack woody cover. Clearly, if you are interested in

big fish, wood is good!

In August 2021, we moved over to the Daniel Access Area (often called the “40-Rod Access”) to complete very similar work. The Daniel Access is the most popular boat access in the Pinedale Region, but boat launching and landing were problematic because the boat ramp was located in the steepest and fastest portion of the reach. The site also contained poor habitat with lots of bank instability and limited holding cover for fish. Following feedback from anglers, Game and Fish pursued several upgrades in boat access functionality and habitat at the site.

Game and Fish employees worked with an operator from Taylor Construction to complete work that included a 400’ long constructed riffle with boulder clusters, and a root wad and brush matrix bank. The constructed riffle raised the bed elevation about 6” and helps to slow down the water at the boat launch. We also moved



An excavator places root wads and brush bundles into a newly constructed bank to provide fish cover and reduce erosion at the New Fork Gas Wells

the boat ramp upriver about 50’ to position it in a backwater area on the downstream side of a small island, and reclaimed the old boat ramp. The constructed riffle contains rock structures to maintain grade on the river, but these small features also contain valuable rearing habitat for juvenile trout adjacent to the cover provided by the brushy banks.

Downstream of the constructed riffle, a large pool was created, and toe wood was used along the bank to increase stability and provide valuable cover for adult fish. Brush and woody slash were also used to increase bank stability and provide food sources in the reach. Further downstream, we stabilized additional (Continued on next page)



Two excavators construct toe wood at the New Fork Gas Wells site

bank with brush bank and toe wood treatments, respectively.

At all manipulated river banks, we also built bankfull benches (flat stream banks allowing the river to spill onto the flood plain at high flows) to reduce bank erosion, and help generate quality wetland areas. Enhanced productivity in the riparian area (low lying areas around surface waters) outside the river can greatly boost productivity in the river in remarkable ways. Because more bugs, bees, birds and other things live in a healthy riparian area, these animals and their waste fall into the river to either directly feed trout or to fuel the food chain. In fact, in some studies, researchers have shown that up to 50% of the diet of trout can come from terrestrial (land living) insects that fall into a creek, and that the quality food they provide can greatly improve growth and condition of fish living next to these habitats. Healthy riparian areas are not just great for fish – they are awesome for large land animals like moose, deer and waterfowl as well.

If you get the chance to hit the water this year, definitely make a point to head out to the Daniel or New Fork Gas Wells Access areas. These improvements were made for you, and we hope they provide enjoyment for as many anglers as they can. And, if you see additional spots that could use some improvement, definitely communicate with your local Game and Fish biologists to get it on their radar. We love doing these projects for YOU.

- Luke Schultz



The crew works to build a constructed riffle on the Green River at the Daniel Access Area



A young bull moose looks over the newly constructed toe wood bank at the New Fork Gas Wells Site

Understanding the Food Web of New Fork Lakes

If you've been fishing at New Fork Lakes recently, you may have seen information posted about an ongoing research project, or you might have noticed some new buoys out in the lake. The Wyoming Game and Fish Department (WGFD) has partnered with researchers at the University of Wyoming (UW) to learn about the food web of New Fork Lakes and estimate fishing pressure on the lakes.

The WGFD uses New Fork Lakes as a source of kokanee eggs for the State's hatchery system. Every fall, kokanee in the lakes run up the New Fork River to spawn. There, the WGFD operates a spawning trap where they collect and fertilize eggs from the fish. These fertilized eggs are brought back to a fish hatchery, raised to stocking size, and then distributed around the state to bolster recreational fishing opportunities. In recent years, the WGFD has struggled to reach their goals for the number of eggs collected during the fall spawn at New Fork Lakes. This has prompted concern that the kokanee population in the lakes may be declining, which could hinder the WGFD's ability to meet stocking objectives and maintain recreational fisheries around the state.

This project was developed to understand what factors may be limiting the kokanee population in the lakes. It was thought that declines might be driven by increased angler harvest or by predation by Lake Trout. To investigate the first possibility, the WGFD is conducting angler surveys on the lakes. If you're fishing, you might be asked to participate in a survey. The survey consists of questions about what species you've been fishing for, how many fish you've caught, and how often you plan to fish at New Fork Lakes this year. These questions aim to determine fishing pressure, harvest rates, and if anglers are targeting kokanee. If interest in kokanee angling has increased, managers may consider increasing stocking rates so that enough kokanee are present to satisfy anglers and meet the hatchery target.

To investigate if Lake Trout are eating kokanee at an unsustainable rate, researchers at UW are collecting fish using gill nets. Lake Trout are brought back to UW where they are processed in the lab. Their stomach contents are analyzed to see what the fish ate recently. A chemical analysis is also performed on tissue samples to better understand what the fish has been eating over the last several months. The otoliths, or ear stones, are also removed, and are used to determine the age of the fish. Otoliths develop like rings on a tree, so rings can be counted to determine the fish's age, and the distance between rings can be measured to determine growth rates (Figure 1). Stomach content, chemical analysis, and growth data are all com-

combined into computer models that can estimate the number of kokanee (and other prey) a Lake Trout has eaten. This provides an accurate estimate of how much of the kokanee population is being lost to Lake Trout predation. These results are also being substantiated with hydroacoustic estimates. Hydroacoustic surveys use a scientific-grade fish finder to precisely estimate the number of fish in the population. By completing this survey repeatedly throughout the open-water season, we can see if the number of kokanee is declining at the same rate as Lake Trout consumption. If models indicate that Lake Trout are eating too many (Continued on next page)

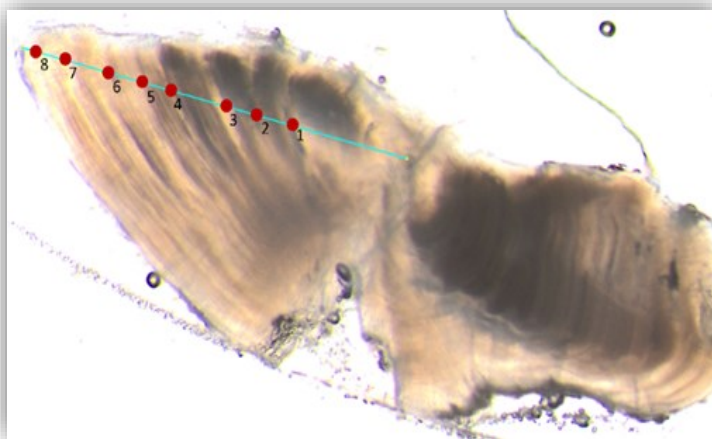


Figure 1. Aged otolith from an 8 year old, 17.5 inch long Lake Trout from New Fork Lakes

kokanee to sustain the population, managers may consider encouraging anglers to harvest Lake Trout to help reduce predation on kokanee. This could also help produce larger Lake Trout by reducing competition for food.

Early results show that Lake Trout in New Fork Lakes have very diverse diets (Figure 2). Midges (also known as Chironomids) are a significant prey source for many Lake Trout. Zooplankton are also an important prey source, especially when Lake Trout are small. As Lake Trout grow, they transition to eating more fish, including kokanee, Rainbow Trout, and Mottled Sculpin. Early angler survey results indicate low rates of kokanee angling at New Fork Lakes, with most anglers targeting Lake Trout or Rainbow Trout.

This study will further our understanding of the food web of New Fork Lakes, and the factors that may be driving kokanee salmon population declines. As more data are analyzed, UW researchers and WGFD biologists will work together to understand these factors and determine what management actions might help to stabilize the kokanee population.

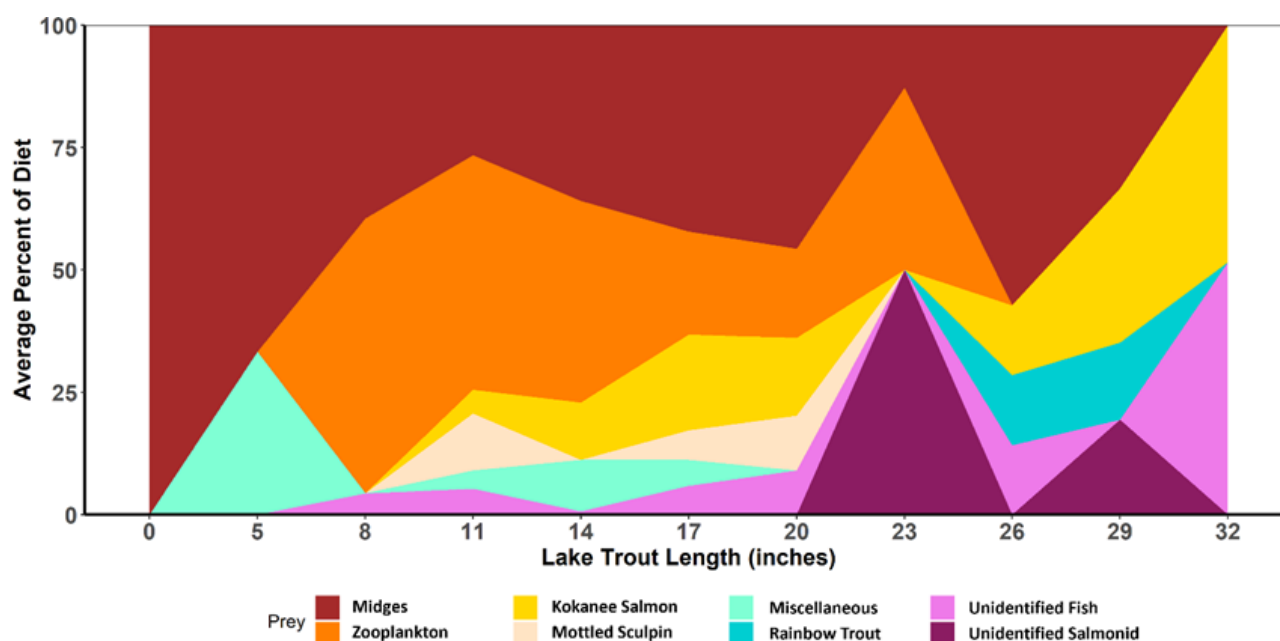


Figure 2. Stomach content data from New Fork Lakes Lake Trout harvested from June 2020 – August 2021. Unidentified fish were too heavily digested to identify their species. Prey areas total 100% at each length- for example, when Lake Trout are 29 inches long, their average diet is approximately 20% Unidentified Salmonids, 15% Rainbow Trout, 30% kokanee salmon, and 35% Midges.

- Caroline Rosinski, University of Wyoming

Mountain Whitefish Study in the Green River

Mountain Whitefish are native to the northern Rocky Mountains, including the Green River, and have experienced population declines in some systems in the southern part of their range. Although they are not as popular as the trout species in many of the rivers where they are found, Mountain Whitefish are a sportfish, taste great smoked and have definitely made hard days of fishing better for many anglers.

Beginning in 2019, we studied the Mountain Whitefish population from Lower Green River Lake downstream to Warren Bridge to improve the Wyoming Game and Fish Department's understanding of this often underappreciated sportfish. Our approach to better understanding Mountain Whitefish was to compare population characteristics between the healthy Green River, Wyoming population and the Madison River, Montana population, which declined in the 1990's. From 2012 to 2014 the movement and reproduction of the Madison River Mountain Whitefish population was studied, and that study was duplicated in Wyoming so we could directly compare the two populations.

We collected 127 Mountain Whitefish in the Green River to determine their sex and age. Of those fish, we implanted 100 with radio transmitters to determine their timing and locations for spawning. Additionally, we sampled juvenile Mountain Whitefish using a seine net in slow-water habitats. The geographic separation, and difference in river conditions between the Green and Madison rivers allowed us to improve our understanding of Mountain Whitefish throughout Wyoming and in neighboring states.

We found Mountain Whitefish in both systems mature between ages 2 and 4, mostly spawn annually and females have a similar number of eggs per pound. Furthermore, spawning migrations ranged from 0 to 15 miles, with males beginning movement prior to females. Once eggs hatch, juvenile fish drift downstream of spawning locations and use slow-water habitats. We also found that the Green River population has many fish greater than 10 years old, and the oldest fish caught was 21 years old.

The main difference between systems was that in the Green River, water temperature was colder and more suitable for embryo development, so warm water temperatures could be a problem for reproduction in other Mountain Whitefish populations. Future monitoring of population density and water temperature could be important in guiding management decisions aimed at maintaining Whitefish populations in the Green River, and beyond. This study improved our understanding of Mountain Whitefish in Wyoming and will help biologists better manage this native sportfish species.

-Colter Brown, University of Montana



Researchers use telemetry equipment to track Mountain Whitefish movements in the Green River



A large school of Mountain Whitefish in a deep pool on the Green River

Fish-Stocking Data is Available to Anglers

The Wyoming Game and Fish Department maintains ten fish hatcheries that produce over five million fish each year. These fish, along with many additional fish we receive from other states, are stocked in waters throughout Wyoming. However, not all waters are stocked, and some waters get bigger fish than other waters. For example, the New Fork River south of Pinedale has ample habitat to support a self-sustaining fishery, so it is not stocked with hatchery fish. On the other hand, many lakes and ponds lack spawning habitat, so they have to be stocked to support a fishery. Soda Lake, located north of Pinedale, is a good example. The fishery there is entirely dependent on stocked fish. Trout grow quickly in Soda Lake, so it is annually stocked with tens-of-thousands of brook trout and brown trout that are approximately three to five inches long. CCC Ponds, located less than five miles from Soda Lake, are also dependent on hatchery fish, but they are stocked with fish that are about nine inches long, and they occasionally get a few fish that are even larger. These small ponds get heavy fishing pressure; larger fish are needed because most of the fish are harvested within weeks of being stocked.

Since fish-stocking regimes in Wyoming are tailored to individual waters, anglers historically had to call a fish hatchery or a fisheries biologist to figure out if their favorite lakes and streams were stocked. However, that is no longer the case. If you want to know which waters have been stocked, or where a particular species has been stocked, you can now find that information on the Wyoming Game and Fish Department's website (<https://wgfapps.wyo.gov/FishStock/FishStock>). This fish stocking report is a handy tool that will allow you to look at fish stocking records across Wyoming dating back to 1985. It will also allow you to narrow your search by year, county, species, or water name. For example, if you want to know everywhere golden trout have been stocked in Wyoming in recent years, you would specify the years "1985-2022" and "golden trout" from the drop down menus. If you just want to find out what species were stocked in a particular water last year, you can get that information, too. Just be aware that if you don't narrow your search, you might get information for several waters (e.g., if you just enter a common stream name like "Rock Creek", you will likely get results from multiple waters named Rock Creek, as well as Deep Rock Creek, Paintrock Creek, Rock Creek Reservoir, etc.). Once you have entered the parameters you are interested in and hit the "search" button, you will get a table of information that includes the water name, the county where the water is located, the stocking date, the species stocked, the number of fish stocked, and the average length of fish stocked. This database is easy to use, and will be a great resource for anglers who want to know where fish have been stocked in Wyoming. You should give it a try!

-Pete Cavalli



Stocking a truckload of trout in New Fork Lake



A photo from the 1930's showing a horse packing milk cans filled with trout destined for a lake in the Wind River Range

Small Ponds, Including a New One, Around Pinedale!

There are several small waters in Pinedale that can offer some amazing fishing. The Pinedale Town Pond is the newest water added to this list, and the second to newest is the Marbleton Town Pond. Although most of these waters are less than 5 acres, they offer plenty of fishing opportunities to kids and adults. For some waters access is only a walk or bike ride from your house in Pinedale. Others will require a short drive.

Pinedale Town Pond – The new pond in Town. This pond covers about 1.5 acres and is located near the new ballpark and school bus barn. Access to the pond is via car or by walking/biking on the paved bicycle pathway. The Wyoming Game and Fish Department stocked this pond with Colorado River Cutthroat Trout and Rainbow Trout in 2021 and will continue to stock the water annually. This water provides an excellent opportunity for kids and adults to go fishing all year long!

Marbleton Town Pond covers about 2 acres. It is located in the Town of Marbleton near Muddy Creek. This pond can easily be accessed by car, foot or bike if you live in town. It is stocked several times during the summer with Rainbow Trout and Colorado River Cutthroat Trout. The pond provides an excellent fishery for kids and adults.

CCC Ponds cover five acres several miles north of Pinedale. These waters were named after the Civilian Conservation Corp (CCC) which established a camp at the ponds back in 1933. Access to the ponds is via car, or by walking or biking on the paved bicycle pathway. An interpretive trail has been built around the entire pond complex providing recreationists easy access to this area. In recent years, there have been water management issues, so the ponds have not remained full during the fall and winter. The agencies involved with the management of these waters will meet in 2022 and hopefully this problem will be resolved for future years. Trout are still stocked annually to provide immediate fishing opportunities, independent of water level and winter survival.

Little Soda Lake covers 52 acres, with a maximum depth of 56 feet. This lake is located on the Bridger-Teton National Forest between Soda and Fremont lakes and is fed by snowmelt. A chemocline (or chemical change) occurs at about 30 ft. deep, preventing mixing of the lake and resulting in unsuitable habitat for fish below. Toxic levels of hydrogen sulphide are found below the chemocline and the entire lake can become toxic during the winter. The lake was stocked with various fish over the years to determine the species best suited for the lake. For the last 18 years this lake has been stocked with 1,000 catchable (> 9 inches long) Rainbow Trout per year. This lake used to support Rainbow Trout over 20 inches. However, prolonged drought conditions have not been favorable for this lake and the fish have not overwintered since 2001. Low oxygen levels, high summer temperatures and low water caused by the drought have eliminated overwinter survival of stocked Rainbow Trout. Rainbow Trout are still stocked annually to provide immediate fishing opportunities, and by September these fish are 14-16 inches long. Angling throughout the summer and fall can be superb as these fish feed voraciously to grow more than an inch per month. Access to this lake is through the Wyoming Game and Fish Department Soda Lake WHMA which opens on May 1st at 6 am.

(Continued on next page)



The new Pinedale Town Pond offers great opportunity close to home!



Young anglers cast at Pinedale Kid's Pond

Pinedale Kid's Pond covers one acre in Boyd Skinner Park in Pinedale. Access is an easy walk or bike ride for those that live in Town. Fishing is prohibited for anglers 14 years and older to ensure young people the opportunity to fish, and reduce crowding. The pond is stocked with 600 catchable (> 9 inches long) Rainbow Trout and a few larger Rainbow Trout over 12 inches long. Fishing pressure can be relatively heavy, so Boulder Rearing Station stocks this pond five to six times a year to ensure adequate numbers of fish are available. The Wyoming Game and Fish Department also occasionally stocks Grayling, Golden Trout, or Colorado River Cutthroat Trout to provide some diversity and excitement for anglers.

Sylvan Ponds consist of two small ponds, 0.5 and 0.8 acres, located in the Sylvan Bay Summer Home area near Fremont Lake. The area can be easily accessed from the Fremont Lake Summer Homes Road. Each pond has been stocked with 60 catchable (> 9 inches long) Rainbow Trout annually for more than 20 years. Fishing pressure is light and these ponds provide a family-oriented fishery, catering to young and less experienced anglers.

Dollar Lake covers 27 acres with a maximum depth of 34 ft. It is on the Bridger-Teton National Forest near the Green River north of Cora. The Lake is periodically filled by overflow from the Green River during high flows, but is primarily fed by springs and groundwater. Dollar Lake is especially popular among anglers because of the large number of fish and high catch rates. It is a popular fishery all year. It can be accessed by vehicle during the summer and by snowmobile during the ice fishing season. The Wyoming Game and Fish Department continues to stock the lake with Rainbow Trout and more recently, Tiger Trout.

Boulder Fishing Ponds are next to the Boulder Rearing Station just East of Hwy 191 south of Boulder. These ponds do not have a standard stocking plan, but rather are stocked with various sizes and species of fish from the rearing station as available. Fishing pressure is light, but these ponds provide excellent angling opportunities when other waters are still ice covered. The Wyoming Game and Fish Department has been stocking around 200 trout annually (8-12 inches). These ponds are open to the public from 8 am to 5 pm.

Soda Lake Ponds (Cottonwood) are nestled in the Wyoming Mountain Range along the shores of South Cottonwood Creek. This water is a series of three ponds totaling 27 acres, all of which support fish. They are located approximately three miles upstream from the U.S. Forest Service boundary. The special regulation (artificial flies and lures only) in place on South Cottonwood Creek and its tributaries are not in place on Soda Lake Ponds in order to facilitate a family fishery atmosphere. Natural reproduction has been sustaining this fishery. Brook Trout and Colorado River Cutthroat Trout are present in the ponds, and the Pinedale Fish Management crew monitors the fish population every 3-5 years to address changes in the population and potential needs for stocking.

- Hilda Sexauer



A happy angler with a rainbow trout on Dollar Lake



**Wyoming Game and
Fish Department**
*Conserving Wildlife-Serving
People*

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Important Dates to Remember in 2022

- **March 1-Nov 30** All watercraft entering Wyoming are required to be inspected for Aquatic Invasive Species prior to launching.
- **May 1-Soda Lake, Meadow Lake, and Burnt Lake** open to fishing at 6 a.m.
- **June 4-Kids Fishing Day and Wyoming's Free Fishing Day** The Wyoming Game and Fish Commission has declared June 4, 2022 Free Fishing Day to coincide with the beginning of the National Fishing and Boating week. Residents and nonresidents may fish Wyoming waters (excluding Wind River Indian Reservation and Yellowstone National Park) without a fishing license or conservation stamp. Free Fishing Day will also coincide with Kids Fishing Day at the Pinedale Town Pond next to the Pinedale ball fields where WGFD employees will be present to help with fishing and provide rods to those that don't have them.
- **December 1-Soda Lake, Meadow Lake and Burnt Lake** are closed to fishing.

We welcome all questions and comments on this newsletter or about the fisheries resources within the Pinedale Region. Please feel free to contact us or send an email to:

alex.lecheminant2@wyo.gov

